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DEPARTMENT OF NATURAL RESOURCES

MICHAEL R. STYLER
Executive Director

Division of Oil, Gas and Mining

JOHN R. BAZA
Division Director

June 1, 2016

Jim Sorensen
Brown Canyon Stone Works, LLC
7684 Whileaway Road
Park City, Utah 84098

Subject: Division Directive and Fifth Review of Notice of Intention to Commence Large Mining Operations, Brown's Canyon Stone Works, LLC, Brown's Canyon Rock Quarry Mine, M/043/0021, Summit County, Utah

Dear Mr. Sorensen:

The Division of Oil, Gas and Mining has completed a review of the referenced Notice of Intention to Commence Large Mining Operations (Notice) which was received April 8, 2016. The attached comments will need to be addressed before tentative approval may be granted.

The comments are listed under the applicable Minerals Rule heading; please format your response in a similar fashion and include the location in the document where the text has been updated. Please address items requested in the attached technical review.

Please submit your response to this review by July 5, 2016.

The Division will suspend further review of the Notice until receiving your response to this review. Please contact the appropriate reviewer with questions about the review: Leslie Heppler (lah) at 801-538-5257, April Abate (aa) at 801-538-5214, Mike Bradley (mpb) at 801-538-5332, Wayne Western (whw) at 801-538-5263, or me (pbb) at 801-538-5261. Thank you for your cooperation in completing this permitting action.

Sincerely,

Paul B. Baker
Minerals Program Manager

PBB: lah: eb

Attachment: Review

cc: Summit County (SLewis@summitcounty.org)

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**Fifth REVIEW OF NOTICE OF INTENTION
TO COMMENCE LARGE MINING OPERATIONS
Jim Sorensen-Brown Canyon Stone Works, LLC
Browns Canyon Stone Works Mine
M/043/0021
May 31, 2016**

General Comments:

Comment #	Sheet/Page/Map/Table #	Comments	Initials	Review Action
1		Any areas of future expansion will need to have a cultural resource survey before being disturbed (comment only; no specific response needed).	pbb	
2	Opt Cover letter	An attachment to the cover letter in response to the Division's previous comment #1 includes statements concerning operation and reclamation of certain areas. Please add this response to Section 106.4 regarding the operation plan and Section 110.2 regarding the reclamation plan.	lah	
3	Table of Content	New comment: Please include a place holder in the Appendices for the Conditional Use Permit from the county. In addition include in the Table of Contents.	lah	

R647-4-104 – Operator Information and Surface and Mineral Ownership

Comment #	Sheet/Page/Map/Table #	Comments	Initials	Review Action
4	Page 2 #7.	Please provide more information regarding the mineral rights, as the current county plat map differs.	lah	

R647-4-105 - Maps, Drawings & Photographs

105.1 - Topographic base map, boundaries, pre-act disturbance

Comment #	Sheet/Page/Map/Table #	Comments	Initials	Review Action
5	Page 4 Item b.	<i>Previous comment - Rock Overburden/Waste Dump Sites are not shown on Exhibit B.</i> New comment – Now page 4, Item B refers to Exhibit D, which is correct, but the Division needs to understand the stockpile and dumps (specifically volumes) for reclamation bond costs. Both dumps and stockpiles are usually angle of repose and rules require regrading to the post mining land use. Please either include a statement that no fill slope (dumps and stockpiles) will be left steeper than 2H:1V or include verbiage and supporting maps on how fill slope will minimize safety hazards and erosion while providing for successful revegetation (as per R647-4-110-1).	lah lah	

Comment #	Sheet/Page/Map/Table #	Comments	Initials	Review Action
6	Page 6 d,e,f	<p><i>Previous comment - There are no acreage figures shown on Figure E-1; they are shown on Exhibit D.</i></p> <p>New comment: E4 is a good map to show reclamation treatments, but the map needs to include the regrading of the stockpiles, dumps and oversteepened slopes. In addition please clarify areas to be topsoiled and seeded. In addition, please change "reseeding" required to "seeding", as theoretically, if seeding is done properly, reseeding will not be needed.</p>	lah lah	

105.2 - Surface facilities map

Comment #	Sheet/Page/Map/Table #	Comments	Initials	Review Action
7	Page 6	<p><i>Previous comment: Text will need to be modified to match changes in the maps</i></p> <p><i>Previous comment - All maps do not include the angle of repose slopes northwest of the equipment area, that need to be topsoiled and reseeded</i></p> <p><i>Previous comment - As requested above, a cross section through the slope will clearly show the fill to be added and will enable a volume calculation for bonding purposes.</i></p> <p>New comment: Thank you for including cross section D-D'. As noted below please continue the section to extend down the embankment/fill slope to the toe of the slope which will enable volume calculations for bonding purposes.</p>	lah lah lah	
8	Page 5	It is unclear why the text was changed, as there are facilities and topsoil stockpiles on Exhibit D.	lah	

105.3 - Drawings or Cross Sections (slopes, roads, pads, etc.)

Comment #	Sheet/Page/Map/Table #	Comments	Initials	Review Action
10	Exhibit E1, E2 and E4	The access to the "staging/equipment area" is cut off. Is a new road to be built? In addition please provide proper documentation relating to public safety (i.e. Department of Transportation) and stability of the slope.	lah	
11	Exhibit E1 and E3	Cross section D-D' needs to extend down the embankment/fill slope to the toe of the slope.	lah	
12	Exhibit E2	Cross sections are mislabeled - A-A' is actually B-B' (according to Exhibit E1) and B-B' is actually A-A' Change one or the other. In addition, the long section should show the slight drainage in exhibit I, i.e. show arrows with the percent grade labeled on the arrow.	lah	
13	Exhibit E3	Profile D-D has a slope angle labeled as a "min" and not as a maximum. Please correct the typo as the Division is principally concerned with slope angle maximums.	lah	
14	Exhibit E4	Exhibit E4 and the text on page 6 #e are not consistent. Please update E4 to match text.	lah	

Comment #	Sheet/Page/Map/Table #	Comments	Initials	Review Action
15	Figure F	The legend notes a 20-foot contour interval, but the map is shown as 40-foot contour intervals. Please correct the typo in the legend. In addition please add the location of the geologic cross section on the map.	lah	

R647-4-106 - Operation Plan

106.8 - Depth to groundwater, extent of overburden, geologic setting

Comment #	Sheet/Page/Map/Table #	Comments	Initials	Review Action
16	Page 13 Para 3	New comment: The text notes "If groundwater is encountered during mining operations then mining operations will be stopped immediately and contact will be made with the Division of Oil, Gas and Mining for further guidance." The Notice currently being reviewed is the operator's plan for reclamation and it is the operator's responsibility to investigate and design for both groundwater inflow and surface water before it is a problem. Please rewrite the sentence that states the operator is responsible for their actions. In addition there are several other local, state and federal agencies with requirements relating to surface and groundwater.	lah	
17	Page 12	The first paragraph discussing stormwater and impacts to surface waters would be better located under Section 109.1, Impacts to Surface and Groundwater Systems.	mpb	
	Page 13	Please keep the groundwater discussion under 106.8	lah	

R647-4-109 - Impact Assessment

109.1 – Projected impacts to surface & groundwater systems

Comment #	Sheet/Page/Map/Table #	Comments	Initials	Review Action
17	Page 15	Please provide a copy of the final version of the industrial SWPPP permit issued once it becomes available for inclusion in the Notice. The Division needs a valid, up-to-date copy of the permit issued through the Division of Water Quality in order to approve an expansion to the Notice.	aa	

109.4 – Projected impacts on slope stability, erosion control, air quality, public health and safety

Comment #	Sheet/Page/Map/Table #	Comments	Initials	Review Action
18	Omission	Please provide proper documentation relating to public safety (i.e. Department of Transportation) and slope stability of the highwall. (This comment is related to the Exhibits, as was noted above).	lah	

R647-4-110 - Reclamation Plan

110.2 – Reclamation of roads, highwalls, slopes, impoundments, drainages, pits, piles, shafts, adits, etc

Comment #	Sheet/Page/Map/Table #	Comments	Initials	Review Action
19		Bond costs are calculated on worse case scenario, not on final configuration; the current mine design as presented will be a bonding challenge. (No specific response required, but please see comments about the surety.)	lah	

R647-4-113 – Surety

Comment #	Sheet/Page/Map/Table #	Comments	Initials	Review Action
21		Equipment items used in bond calculations. Please include specific year, make and model for each piece of equipment used in the calculations. This is important for verification of costs. Also please state what reference material was used.	whw	
22		Please state what reference material was used for equipment costs.	whw	
23		Please include productivity worksheets for verification of production rates.	whw	
24		On the reclamation map please identify the 26.6 acres that will be ripped and graded.	whw	
25		On the reclamation map please identify the 1.0 acre of road that will be ripped and graded.	whw	
26		On the reclamation map please identify the roads that will be left at time of final reclamation.	whw	
27		On page 9 the Notice says that projected life of mine is 298 years. The reclamation maps show the site at time of final reclamation. The Division cannot assume, for bonding purposes, that mining will continue as planned for the next 298 years. The Division must assume on a worst-case scenario which is that mine will be reclaimed within the next five years. Please include an intermediate reclamation plan.	whw	
28		The intermediate mine plan must include a reclamation map for the pit at the end of five years.	whw	
29		In the reclamation plan (page 20), the Notice says highwalls will be reclaimed and stabilized by backfilling against them and cutting the wall were necessary to a slope of 2H:1V except solid rock where a 1H:1H slope will be the maximum. Please include plans and cost estimates to reclaim the pit as outlined in the Notice should mining cease at the end of five years.	whw	
30		On page 20 the Operator states that the waste dumps will be regraded to a slope of less than 3H:1V. Please include reclamation cost for the earthwork. Please also include costs for additional vegetation treatment for the parking area outslope. Per the grading plan, this area should be left at a slope of 2H:1V or less steep, and measure are to be taken to decrease weed cover.	whw & pbb	
31		Please include a cost for general site cleanup. There are several barrels and used tires on the site.	whw	